

April, 1937

THE CITRUS INDUSTRY

Five

The Citrus Industry
EXCLUSIVE SPECIALIZED CITRUS PUBLICATION
Issued Monthly Representative of every interest
Representing no special interest

Publication office at Bartow, Florida. Entered as second class matter February 16th, 1920, at the post office at Tampa, Florida, under the act of March 3, 1879. Entered as second class matter June 19, 1933, at the post office at Bartow, Florida, under act of March 3, 1879.

State Horticultural Society Meets In Ocala April 13, 14 and 15

On April 13th, 14th and 15th, The Florida State Horticultural Society is celebrating its 50th Anniversary Meeting in Ocala, the place where it was first organized.

Pursuant to an invitation to other horticulturists issued by the then existing Florida Nurserymen's Association, a group of eighteen men met at the Ocala House on April 10, 1888 and organized the Florida State Horticultural Society. These men were Dudley W. Adams, Tangerine; J. B. Anderson, San Mateo; I. J. Brokaw, Anthony; A. Callahan, Melrose; J. P. DePass, Archer; E. DuBois, Tallahassee; R. D. Hoyt, Bay View; L. W. Lipsey, Citra (now of Blanton); A. H. Manville, Jacksonville; W. J. Merrill, Gardenia; James Mott, Orlando; R. W. Pierce, Indian Springs; Rev. Lyman Phelps, Sanford; P. W. Reasner, Manatee; O. P. Rooks, Gardenia; G. L. Taber, Glen St. Mary; H. L. Wheatley, Palm Springs; J. N. Whitner, Lake City. Of the original eighteen men, only one survives; namely: L. W. Lipsey of Blanton.

The first meeting of the newly organized Society convened on February 20th, 1889 in the great building of the Semi-Tropical Exposition in Ocala. In this building was assembled the first display of agricultural and horticultural exhibits that had ever been brought together in the state. Meeting with this young

and ambitious organization by invitation, in a joint opening session, was the American Pomological Society. The meeting wound up in a blaze of glory through the courtesy of the railroad in extending to the delegates an invitation for a ten days excursion through the state. Points in the state that were visited were Homosassa, Silver Springs, Tampa, Winter Park, Sanford, DeLand, St. Augustine, Jacksonville, and points as far south as Lake Worth.

The fifty years interval has seen many changes and developments in the state in every way. Only a few years after the first meeting the fruit industry experienced what was perhaps its greatest disaster in the Big Freeze of 1894 and 1895. The 1895 meeting of the Horticultural Society was a momentous occasion. The members gathered to discuss ways and means and to gain courage to carry on. Growers were abandoning their properties and leaving the state. As a result of this meeting, many decided to stay and rebuild their lost fortunes. Many turned to the growing of vegetables for quick money and from this has developed the large vegetable growing industry of the present. Succeeding periods of cold have given the fruit industry set-backs, but none like that of 1894 and 1895. In every case, the meeting of the Florida State

Horticultural Society was the rallying place for the growers. It has been so ever since. When the White Fly first made its appearance in the groves, it was thought it would no longer be profitable to grow oranges, but through the development of oil sprays and methods of spreading the friendly fungi, this pest is no longer considered a menace.

When Citrus Canker was introduced from Japan, a real threat to the industry existed, but the wise forethought of a group of men from the Horticultural Society prevented this. Almost simultaneously with its discovery, a campaign of eradication was decided upon. To expedite the work and to prevent future introductions, the State Plant Board was established.

In later years, when the Mediterranean Fruit Fly was found, the experience gained in the Citrus Canker work and the organization perfected during that period, provided a background for the successful eradication of this pest, an accomplishment that was new to the world.

In every major movement of interest to the fruit industry of Florida, the State Horticultural Society has helped in one way or another. Its proceedings constitutes an encyclopedia of Florida Horticulture. On April 13th, 14th and 15th, it will

(Continued on Page 20)

Health And Wealth In Florida....

I have been asked to answer tonight the question of "Why I Came To Florida." It is a pleasure to tell you why.

There are many people who have come to Florida and left it — among them, publishers who can speak vindictively on "Why I WON'T Come to Florida," and as good business men and women of Florida, the answer to that statement is one that you should want to know.

It is the practice of business and industrial executives of large corporations to make a survey and study of their operations in relation to the product and service rendered. In relation to growing population and competition in regards to methods, practices and policies. Frequently, they bring in outside consultants, not associated in the business, because experience has taught them that many of the under executives and department heads follow established policies and rule of procedure and make little effort to ascertain what their competitors are doing. Or have gotten into a rut or habit to such an extent they fail to enlarge their perspective of the growing demand required by changing events and therefore fail in their ability for developing economical and efficient methods necessitated by progress.

And, what is true of big business is also true of the small business, as in your community. Often a community keeps doing the same thing the same old way by force of habit. Or you keep neglecting to do the things you should do until some pessimistic writer pokes fun at you as I was informed one of them did years back to Ft. Pierce. Had not the writer aroused the sensible people of Ft. Pierce, that splendid city would probably still have been a little mosquito town instead of the substantial and growing progressive industrial town of today.

Never get excited when someone finds fault or when a pessimistic writer tells the world in a magazine article about the "holes" in Florida. That is good publicity (provided it is not true.) It has its appeal to mil-

lions of American people who travel miles to find the hole in the doughnut but finding none in Florida, they become boosters of this state.

The unfavorable publicity that should worry you is that which tells the truth.

The late John Wanamaker once said, "Talk about me, if you can't say anything good, say something bad, but talk about me." He knew that the good of his business overshadowed the so-called bad that those who would enter his store to find the bad would leave with the good.

And this is precisely true of Florida. Florida abounds with advantages and opportunities and fewer disadvantages than any other state I know of. I don't know where one can find in this hemisphere a more comfortable climate year in and year out than in Florida. Again, to emphasize the fact that when a pessimistic writer, writes about Florida in more cases than not, he is only reflecting in print what hundreds, if not thousands of people have said and are saying by word of mouth.

Long before the Ft. Pierce article appeared, Ft. Pearce was called Ft. Pierce by those who have felt the uncomfortable sting of the mosquitoes and they were warning those who were seeking rest, recreation and pleasure to keep away from that town.

You are endeavoring to great extent to attract tourists to Florida during the summer months. If any state in the union has the right to make an appeal to summer vacationists, Florida has. It has been the habit of the people of northern cities to go further north during the summer vacation months, but they are beginning to realize that the climate and rest and recreational facilities of the southlands are more attractive and each year in increasing numbers, families are coming south, many of whom are headed for Florida. However, when word is passed on, up the line of travel that "Florida is on fire," "Don't go to Florida, you can't sleep from the smoke from either prairie or forest fires." I

Address made by Bernarr Macfadden
Friday evening, March 19th at
Florida Press and Advertising Club Convention
At Hollywood Beach Hotel,
Hollywood, Fla.

don't have to tell you about it. But I do want to tell you that it costs you a lot of summer tourist business.

There are still others, I have been informed who are costing Florida much. It is said they are permanently driving from your state considerable wealth through so-called traffic laws and enforcements. However, such laws bother me little for generally I am out of the reach of your traffic cops as I am a flying publisher. But it does concern me indirectly and others like me, because I am constantly inviting people to Florida through my various publications by advertisements and publicity. The setting of so-called motor traps where the innocent, unsuspecting law abiding motorist is trapped without warning, then fined under the pretext, he might have had an accident, is reported to be being broadcast by hundreds of motorists as one of Florida's greatest legalized rackets. Some day, perhaps refutable facts that will astonish a pessimistic writer will gather you.

I am not defending the drunken driver or the reckless one. Enforcements, arrests and fines upon first offenders of minor violations will not prevent accidents. If all automobile tourist business was ended, most of your towns would become ghost towns.

I want to make a bold statement. Florida does not belong to you alone. It belongs to the Western Hemisphere. If you can get this perspective of Florida, then you are a

FOR SALE

Lists of Florida Citrus Growers
compiled from recent survey
of groves, arranged by counties.
Names, address, acreage and legal
description.

Also List wealthy residents
of Florida

National Survey Co.

P. O. Box 163
ATLANTA, GA.

April, 1937

THE CITRUS INDUSTRY JACKSONVILLE, FLORIDA

Seven

true Floridian. You will forget sectionalisms and townisms and become true custodians of a great and magnificent state that is in the making. From gulf to sea, from the north state line to Key West, you will all together be selling Florida. The things Florida produces, and the wonderful things nature has endowed Florida with. Its hills, its valleys and lakes, its natural forests and timberlands, its subtropical verdure that contain such overwhelming beauty, its natural coastlines with their salt laden breezes which mellow and temper the entire state. You will adjust your laws and the affairs of your communities and state in such a manner as to create good will, favorable publicity and attract wealth. You will know that the progressive development and prosperity of one community is bound to benefit other communities. The more people you can induce to come to Florida to exploit your resources the greater will be the prosperity of the state. There is magic in the word Florida. Somehow, the name itself thrills the heart. There is a friendliness in it. It is the language of the flowers and has the atmosphere of romance and love. And so I tell you why I came to Florida.

A number of my friends interested in health building came to Florida and were greatly benefitted physically, mentally and spiritually. So much so, that I decided to see what it was all about. After spending several seasons here resting from my strenuous activities, I discovered for myself the wonderful rejuvenating and revitalizing effect of your ocean and sun baths. I concluded that if it is so beneficial to me, it should prove beneficial to the vast host of men, women and children who need precisely what you have here to make them healthy, happy human beings. Glorious health is the greatest wealth! Think over that statement carefully. Dynamic health is Life's most wonderful possession. And we never consider its value until we lose it. Without the feeling of well-being which accompanies these physical riches, you are indeed to be pitied. Pain, discomfort, a feeling of weakness and incapacity is with you at all times. And those who are blessed with this precious possession of dynamic health! They are active, alert, forceful, cheerful and usually successful. They frequently have that exuberance of spirit which makes merely being alive a thanks-

giving.

When men in my position become interested in a community or state and establish there a business or industrial venture, it is because that community or state has some outstanding advantages and opportunities not existing or else not so well developed in other communities or states.

Florida has become famous for its beautiful summer climate in the middle of the bleak cold winters and sizzling summers that come to the north. I expect to help make it as famous as a health resort center, where people can come and absorb the vitality direct from the sun. Here they can find the vital food that comes direct from the soil. Here they can acquire the wealth that no bankruptcy court can take from them. Wealth of health that is worth more than all the riches of the world.

I am fast becoming a Floridian. The more I study the advantages, possibilities and opportunities of this great state in relation to the markets of other states, the western hemisphere and the world for that matter, by air and water, the more I am convinced that had the famous

Horace Greely lived today he would have visited Florida and he would have said, "Go south, young man, go south to Florida. In the west you have to dig down deep into the bowels of the earth for your gold. In Florida you simply pick it up from the ground and pluck it from the sun-lit sky. Go to Florida, young man."

ORANGES THEN AND NOW
COMPARED BY SPEAKER
HERE BEFORE FREEZES

Davenport, Fla. — Florida orange growing comparisons between fifty years ago and the present time are anticipated during the remarks of Dr. H. J. Webber, California Citrus Experiment Station Director, who has been announced by Secretary B. F. Floyd as the chief speaker at the State Horticultural Society Golden Jubilee Convention opening session in Ocala, Tuesday evening, April 18.

Representing the United States Agriculture Department Bureau of Plant Industry, Dr. Webber worked in Florida before the "big freezes" his activities having been mostly through Alachua, Lake, Marion, Putnam and Sumter counties but extending southward to the Callosa-hatchee River section.

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Increasing Orange Production Adds To Growers' Marketing Problems

Florida citrus growers now produce twice as many oranges as they did in years before 1928, and supply one-third of the oranges in markets of the United States, according to figures compiled by the Agricultural Adjustment Administration.

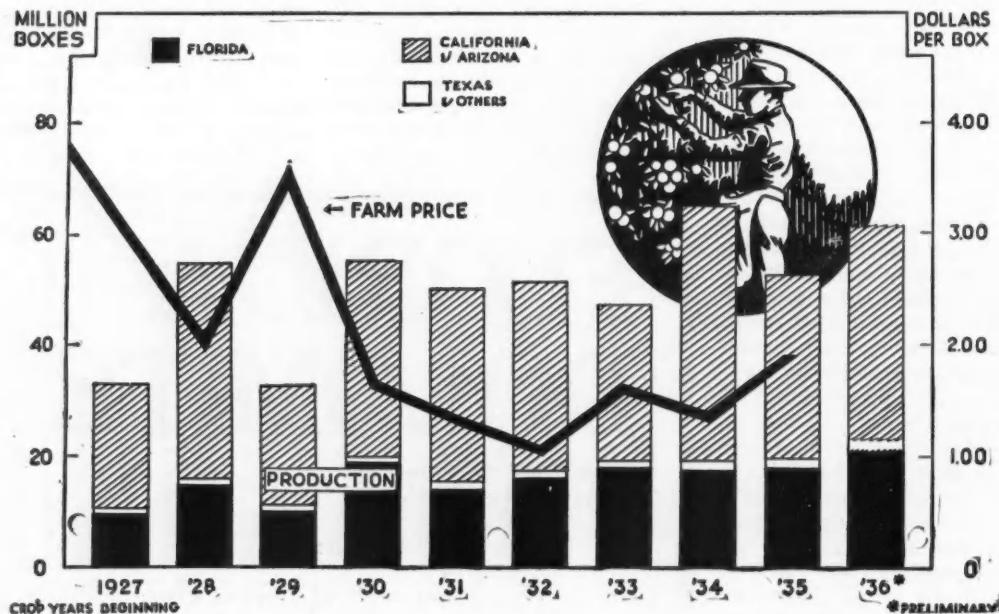
Production of oranges in Florida has increased at a more rapid rate than in California, the other major growing area. Greater production in the two most important growing sec-

shows the trends of orange production in the Florida, California, Arizona, Texas and other growing areas, and the trend of the farm price of all oranges produced in the United States. While average prices in each of the orange growing areas may vary from year to year, the national price trend shown in the illustration serves to indicate the general downward course which orange prices have followed in the various produc-

Florida produced 19,211,000 boxes, compared with 10,304,000 boxes in 1929, and 15,116,000 in 1928.

During the next three years national orange production ranged from over 47,000,000 to over 51,000,000 boxes, and Florida production ranged from over 14,000,000 to over 18,000,000 boxes. Average prices during those years were particularly low, largely as a result of depression factors. The national orange crop in

ORANGE PRODUCTION AND PRICE



tions, coupled with the increase in production of grapefruit, has intensified the marketing problems of orange growers. Moderate increases in the production of oranges are expected for the next three or four years, and more marked increases in the production of grapefruit are expected during the next five or six years, thus further aggravating the marketing problems of citrus growers.

The accompanying illustration, based on figures from the Bureau of Agricultural Economics of the United States Department of Agriculture,

ing sections.

In years before 1928, orange production for the United States as a whole was relatively small and prices were relatively high. A big increase in production in 1928 resulted in a lower price, while a smaller crop in 1929 brought growers a higher price. In 1929 production totaled 32,621,000 boxes, compared with 54,659,000 boxes in the year before. In 1930, the crop of oranges was somewhat bigger than the crop produced in 1928, and prices went below the 1928 level. Of the 1930 national crop of 55,270,000 boxes,

1934 reached the record level of 64,937,000 boxes, with Florida producing 17,600,000 boxes. The greater increase in national production forced prices lower than the year before, despite the fact that some improvement had occurred in consumer purchasing power. A national crop of 52,557,000 boxes was produced in 1935, of which Florida had 18,000,000 boxes. This crop, which was considerably smaller than that produced in the previous year, sold for a higher price.

This season's national crop of or-

(Continued on Page 20)

Bigger Grapefruit Crops Expected In Future Years

National crops of grapefruit exceeding this year's record-breaking production by nearly 5,000,000 boxes or about 15 percent, are expected to prevail under normal growing conditions over the next four or five years, according to the General Crops Section of the Agricultural Adjustment Administration.

The increase in production, from 26,600,000 boxes produced this year to an average annual yield of 31,-

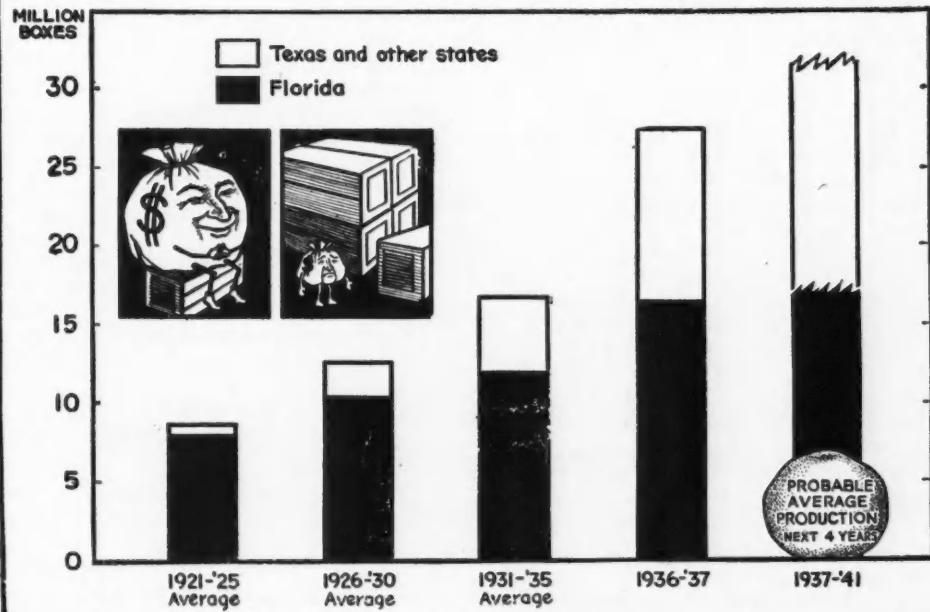
duction in Florida, Texas and other producing areas and an estimate of the probable average of production for the period 1937-41.

The grapefruit industry of the United States, now centered in Florida, is growing in importance in other sections of the country. Young trees in Texas and in the California-Arizona area have begun to contribute a more significant share of the nation's total grapefruit supply. At the

based on figures compiled by the General Crops Section. The total effect of bigger grapefruit crops in the United States is expected to be felt about equally in all growing sections.

Average annual production of grapefruit in the United States during the period 1921-25 totaled 8,700,000 boxes. During the period 1926-30, it averaged 12,600,000 boxes. In the next five years grapefruit crops averaged 16,900,000 boxes. This sea-

PAST AND PROSPECTIVE GRAPEFRUIT PRODUCTION



500,000 boxes expected over the next few years under normal growing conditions, is likely to come largely from young trees which are attaining greater bearing capacity, and from those just coming into production.

Grapefruit production in all important growing centers of the country has increased at a steady rate throughout the years. This is indicated in the accompanying illustration which shows the trend of pro-

duction in Florida, Texas and other producing areas and an estimate of the probable average of production for the period 1937-41.

The grapefruit industry of the United States, now centered in Florida, is growing in importance in other sections of the country. Young trees in Texas and in the California-Arizona area have begun to contribute a more significant share of the nation's total grapefruit supply. At the

same time Florida production has been increasing. The rise in production in all areas has intensified marketing problems for both growers and shippers and has resulted in lower returns to growers.

The increase in grapefruit production in the next few years is expected to be more significant in growing areas other than Florida. The extent of this increase is indicated in the accompanying illustration which is

son's production for the country as a whole is placed at 26,600,000 boxes, an increase of 9,700,000 boxes over the average in the 1931-36 period. With normal growing conditions, it is expected that during the 1937-41 period production in the United States may average around 31,500,000 boxes annually.

Figures for Florida show that during the 1921-25 period, production

(Continued on Page 20)

The Citrus Industry

with which is merged The Citrus Leaf

Exclusive publication of the Citrus Growers and Shippers

Publication office 550 North Broadway, Bartow, Florida
Telephone 269

Published Monthly by
ASSOCIATED PUBLICATIONS CORPORATION
S. L. FRISBIE President
S. LLOYD FRISBIE Secretary-Treasurer
A. G. MANN Production Manager

Subscription, \$1.00 per year in advance

NEW YORK OFFICE
118 East 28th Street — Telephone Lexington 2-4478
Edwin F. Ripley, Manager

CHICAGO REPRESENTATIVE
Joe Eslar, 6241 North Oakley Avenue
Telephone — Briargate 7441

CITRUS MARKETING CONTROL HARD HIT BY FEDERAL JUDGE

The citrus marketing pact and control of distribution received a hard blow in the decision of Federal Judge Akerman of Tampa on March 25, when he held that the Agricultural Adjustment Act and the citrus marketing agreement were invalid.

This opinion was handed down shortly after Federal Judge Holland of Miami had rendered a decision upholding the provisions of the AAA and the citrus marketing agreement section by section and point by point.

Thus we have the anomalous and confusing situation of the AAA and marketing agreement being in full force in the jurisdiction of Judge Holland while being at the same time void and of no effect in the jurisdiction of Judge Akerman. Practically, however, the decision of Judge Akerman will have the effect of nullifying the marketing agreement throughout the state until the decision has been appealed and reversed by a higher court, since twenty counties in the very heart of the citrus producing section are included in Judge Akerman's jurisdiction, and with these counties free to ship without restraint, the enforcement of the marketing pact in the few remaining counties would be not only useless but inimical to the interests of growers and shippers outside Judge Akerman's jurisdiction.

That Judge Akerman's decision will be appealed goes without saying. Citrus interests concerned with the continued control of distribution will not be inclined to accept this confusing situation without protest, but until and if a reversal of Judge Akerman's decision is secured in a higher court, control of distribution appears to be at an end.

AN IMPORTANT MEETING

Citrus growers of Florida are looking forward with great interest to the coming session of the Florida State Horticultural Society to be held in Ocala on April 13, 14 and 15, the fiftieth anniversary of the founding of the Society in that city on April 12, 1887.

Of the original eighteen founders of the Soc-

iety only one, L. W. Lipsey of Blanton, survives, and he is scheduled to take an important part in the observance of the semi-centennial anniversary of the Society this year.

Officers of the Society and members of the program committee unite in declaring that the program this year will be of exceptional interest, entirely aside from the anniversary feature, and they are looking forward to the best attendance of any meeting in recent years.

While the official program has not as yet been announced, enough is known to justify the assertion that the gathering will be rich in the presentation of horticultural subjects of timely and vital interest to citrus growers and other horticulturists of the state.

Every citrus grower who can possibly do so should attend, confident that the program to be rendered will be of real value to the industry and of benefit to each individual grower.

RAILROADS REFUSE EMERGENCY RATES

The petition of Florida grapefruit growers for an emergency freight rate to Eastern, Western and Southern territory to aid in the profitable marketing of a super-bumper crop was unanimously refused by the Association of American Railroads at a hearing in Chicago. The rejection of the petition was couched in the following language:

"It was finally concluded unanimously as to territories and unanimously as to individual railroad companies, that it would be impracticable for the railroads to make the reduction sought."

Thus a major contention of grapefruit growers was lost.

Elsewhere in this issue we present the reply of the Growers and Shippers League of Florida, setting forth the justice and reasonableness of the reduction asked and taking direct issue with the findings of the Association of American Railroads.

CALIFORNIA WONDERS WHEN

In the "Sunkist" department of the California Citrograph, we find the following reference to the Florida citrus situation:

"Under the heading, 'An Opportunity, Will We Grasp It?' a Florida publication 'The Citrus Industry,' expresses the sympathy of Florida growers for their California brothers, and then goes on to explain the opportunity for added profit from Florida citrus if proper care in distribution is exercised.

"The California citrus industry appreciates the expression of sympathy and agrees that Florida can 'cash in,' but judging from the volume of Florida shipments and their prices during recent weeks, we wonder when they are going to begin to do more than talk about."

(Continued on Page 22)

Compare / Results!



THE only way to compare fertilizer results is in the grove and field! The size and value of the crop and the condition of the trees are the true basis of comparison....not the glib arguments of salesmen, not mere promises of excellence, not the false temptations of cheap prices without quality.

Compare NACO Brand fertilizers in actual use! Compare actual results! Compare dollar for dollar profits with dollar for dollar cost.

We repeat our challenge. **COMPARE RESULTS!** You who have been using NACO Brands will find that the comparison confirms your own good judgmentand you who have not been using NACO will begin to understand the mounting good-will NACO is gaining among growers who demand results.

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JACKSONVILLE -- FLORIDA



IMPRESSIONS

.. By ..
Frank Kay Anderson

Pausing in passing through from New York to Austin, Texas, which has been his home for the past few years, C. W. (Webb) Chewning took time to look over the Florida citrus situation a bit. For quite a few years Webb Chewning was mixed up in citrus marketing, in the days before the real estate boom. One surprise he had was to find that a beautifully timbered tract he owns in Seminole county recently had been denuded by timber thieves, with no trace of the identity of the thieves.

There is, of course, a remedy for these presently timber stealing operations. Many old-timers can recall it. But likely enough Florida has become too "civilized" today for the application of the old cure for those who cannot distinguish between mine and thine.

A most welcome meeting with C. A. (Charley) Stewart of Lakeland, Plant City, Auburndale, and way stations. We out-fumbled him for the lunch ticket, and Charley excused his election with the plea that we had bought the meal the last time we had eaten together. Then we figured it out that it must have been just about ten years ago. Time seems to be dealing lightly with Charley Stewart, who long has been one of our favorite persons among the men who sell our citrus crop.

Tough years, hard times for the citrus nurseries, reduced plantings and consequently reduced stocks. Now a reasonable planting demand sent prices for suitable planting stock kiting upward, with the result that the nurseries again are obtaining a merited prosperity.

Considerable interest, according to what we overheard, among the growers in the article in last month's issue upon the subject of rootstocks by Dr. A. F. Camp. That is always an interesting subject to thoughtful growers. To our own mind it is of sufficient importance to the industry to warrant our Experiment Station in giving its full time for three or

four years to disseminating information on the subject. To begin with, they might answer a question which sticks in our mind: Why California quite some time ago not only abandoned rough lemon stock wholly, but actually dug out and destroyed trees on rough lemon? The reason a California citrus man gave us had no connection with soil, water or temperatures, and we'd like to know more about it. Then, when that is straightened out, we'd like an adequate explanation of why California even more recently has abandoned the use of sour orange stock in favor of sweet orange stock.

Y'ars and y'ars ago, that red headed genius, the late Mr. Milliken, of the Exchange Supply Co. of California, used to visit with us ever and anon when he came to Florida on missions having to do with arranging for supplies of sour orange seed. We recall those visits with pleasure. Aside from which we feel sure that some most excellent reason must have been found for abandoning sour stock in favor of sweet, or the Pacific Slope scientists would not have directed it.

Florida senator rebukes northern senator for taking interest in the canal scrap. Shucks! If not to say, Back Up! We can name you a half dozen members of the U. S. Senate from other states whose investments, and consequent interest, in Florida are considerable. Any of the six has several times as much invested in Florida property as both our own senators combined.

This is a prosperous ending for a citrus season which in the beginning promised little. If only some folks do not get into too great a hurry, it looks as if they are due to make mighty nice money on the fruit remaining.

However, some folks just cannot leave well enough alone. Just the other day we paused for a glass in a drugstore. When it came the juice was so acid it hurt our remaining teeth. So we strolled over and took a

look at the orange supply. What do you think? A lot of half-green Valencias. Because they were of small size they would have been worth real money later to someone, but here they were being sacrificed for little, and serving to "poison" ultimate consumers.

Valencias are due for high prices. But not too high. Figure the number of oranges in a box, costs of picking, packing, freight, wholesalers' profit and then the retailers' profit, and approximate the price which ultimate consumers must pay. That's what sets the limit.

Randolph (Scrappy) Robinson of Orlando, who has put in many years in the fruit game, figures that Valencias at \$3.50 on the tree to the grower when translated into current terms in New York, Boston and elsewhere mean approximately one dollar a dozen to the consumer. We haven't checked those figures, but they are somewhere close to correct. And at that price it well may be imagined that the limited consumption will pretty well check market advances.

Marsh Seedless grapefruit looks good, too. For those who haven't already sent theirs to market out of what we, in our old-fashioned way, insist upon regarding as the proper Marsh Seedless season.

He is the proprietor of a quite important Chicago restaurant. We sat down to breakfast together in a Florida hostelry, and both ordered grapefruit. It was good grapefruit, and he was enthusiastic. "I just love this Florida grapefruit," he said. "I like the tang of it. Just wish I could have more of it." Then came the story that despite his personal preference he buys Rio Grande Valley grapefruit for his restaurant. His patrons like it better. Not only so, they insist upon it. So in as much as he generally eats in his own place of business he eats what the restaurant is serving. Just now and then he sends out and buys a few Florida grape-

fruit for his personal consumption.

It's the ultimate consumer who must be satisfied. And whose pocketbook sets the measure of the markets.

And remember what the old lady said concerning taste when she kissed the cow.

A recent survey by the Consumers Council makes a rather poor case for citrus fruits. In Baltimore 11 families out of 1012 are reported as having claimed never to have tasted an orange. In St. Louis 21 out of 1017 families answered that they had never eaten an orange, and 212 that they had never tasted a grapefruit.

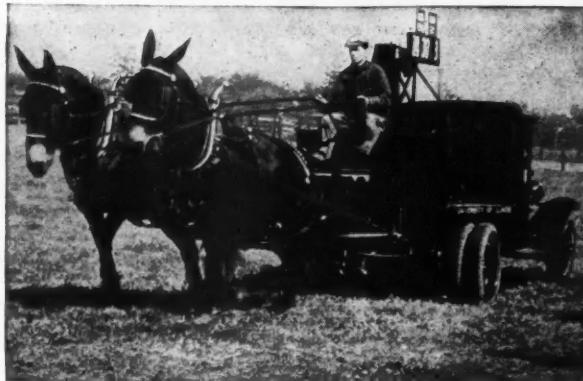
That sounds mighty bad, but we refuse to be stampeded by that type of survey. True the researchers report having traveled from house to house in selected sections of those cities, calculated to give a cross section of the population. But turn a certain type of highbrow loose on what he or she regards as a more or less slumming operation, and the answers to the stock questions are not always as truthful or as accurate as they might be. Further those same highbrow types take a sort of sadistic satisfaction in standing aghast and viewing with alarm the conditions under which the "underprivileged" live which creates a tendency toward exaggeration.

Given a questioner whose manner conveys an impression of being patronizing, and many among those questioned are likely to indulge their sense of humor by giving answers calculated to create astonishment at the expense of truthfulness.

The ordinary human muchly dislikes to be patronized. We, being very ordinary, react rather strongly against the upstage gent with the patronizing air. For instance, recently in Washington one such, who likewise possessed an overwhelming curiosity, undertook to question us concerning our presence in a place which evidently he considered semi-sacred. Now it was distinctly none of his business, and the lordly air and condescending manner were, to us, very irritating. So, we assumed utter nonchalance and murmured something to the effect that we must have been invited because of our official status. He bit. And inquired concerning that status. Then we let him have it: "Sir, I am

"It's pretty hard to beat

NATURE"



MIGHTY MULES

Hitched to a dynamometer (a strength testing machine) these powerful mules record their strength for the photographer.

HERE is a famous pair of mules—mighty creatures with the pulling strength of a pair of four-legged giants. At a recent university test, they threatened the world's pulling record.

What makes these mules unusual? Mother Nature gave them something—her own natural balance of many elements; strength, staying power, the willingness to work. So in actual value, these sturdy mules stand out from ordinary mules—there's just no comparison.

And Nature gave a natural balance to Natural Chilean Nitrate, too—a natural

balance of many elements that combine to make this nitrogen fertilizer a reliable food for your crops.

Natural Chilean is known for its quick-acting nitrogen, of course. But nitrogen is only one of its vital elements. Because of its natural origin, Chilean Soda also contains, as impurities, such elements as iodine, boron, magnesium, calcium and some 28 others. And always remember that these vital elements are present in Chilean Soda in Mother Nature's own wise balance and blend.

For better crops . . . Natural Chilean Nitrate.

Natural Chilean

NITRATE of SODA

NATURAL AS THE GROUND IT COMES FROM

With Vital Elements in Nature's Balance and Blend

RADIO—“UNCLE NATCHEL & SONNY”
FAMOUS CHILEAN CALENDAR CHARACTERS
 See announcements of leading Southern Stations

the commodore of the Sanlando Springs Yacht Club and Beekeepers Association."

Now let Homer Hughes of Bradenton tell one. This one is on us: We were lingering briefly in a gilded Washington cocktail lounge. (That may be in the nature of news to Homer's mother). We had just recently filed our cigarette butt in a nearby receptacle and were not smoking. Along came the cigarette girl with the tray, and put up a strong solicitation. We assured her we never used the things. But she had salesmanship and personality. Sweetly she inquired: "How about some plug tobacco?"

Getting back to that Consumers Council survey, we are a bit cynical due to experience with other surveys in the past on the subject of oranges and grapefruit. As we recall them, none made so bad a showing, and, the Lord knows, the country has steadily been becoming more citrus conscious with the passage of recent years.

A meeting on the street with J. M. (Doc) Slattery of Tampa. First time we have seen him in a long, long time. The same old Doc. The mold was broken and thrown away after he was cast. We recalled how we traveled together by car from Bradenton to Tampa in a little under eight hours, on the night when the 1921 hurricane was moving in on the West Coast. And how Homer Richardson, then of the Exchange Supply Co., leaving Bradenton five minutes after us, didn't get to Tampa until four days later. Ours must have been the last car to get across the Little Manatee River before the bridge went out.

That was a lucky break. That morning we had to see whose car we would use for the trip from Tampa to Bradenton and return. We used Doc Slattery's, or we might never have gotten back. His was brand new, and one of the first to be equipped with a windshield-wiper. Without that no one can guess what might have happened.

Year in and year out there comes into New York from fifty to one hundred per cent more grapefruit than peaches, and that is nothing to be sneezed at, if you're in a sneezing humor.

There's a lot to be said on the subject of advertising, as to what has, and what has not, been done. After all, however, it is seldom that two possessions of John J. Consumer are given proper consideration in studying the marketing of food-stuffs. They are his pocketbook and his digestive tract. And the fact that he has but one of each.

These figures also show that New York City consumes more oranges than it does potatoes; but that mustn't be allowed to encourage one unduly. For there's a footnote which says: "Does not include deliveries from nearby farms." Those should bring potatoes into the lead, though not very far.

Why not oranges as food, right along with potatoes? Most folks don't think of oranges in that light, but one medium size orange, or six ounces of orange juice (an ordinary coca-cola glass at the fountains has a capacity of six ounces,) contains 100 calories. One medium size baked potato (Irish) likewise is rated at 100 calories, or if you run to mashed potatoes, you must eat three tablespoons to get the 100 calories that are contained in a medium sized orange.

It takes about twice as long for the stomach to digest potatoes as it does for it to digest orange juice. Thus the greater sense of fullness and satisfaction, perhaps, after stowing away a ration of potatoes, but in the matter of nutriment the orange holds its own.

Then, as to vitamins, of which we do not hear so vastly much these days, the orange puts the potato clear into the shade. To get back your calories and vitamins in your daily diet stick to orange.

Now, having ascertained the substantial facts from authentic tables in general dietetic use, shouldn't we in this part of the world consider the formation of a—Yes, let's call it the Society To Take The False Hair Off The Potato's Chest.

Not long now before the 1937 Florida Legislature will convene. Quite a lot of interest to citrus folks likely to arise in that connection; and we note, with regret, that there's a diminution in the citrus representation in this forthcoming legislation, as compared with some of the past.

That's something we are pretty careless about when we come to do our voting in this part of the state. Our citrus and vegetable interests are sufficiently vital that we ought to see that they are adequately represented by men possessed of first hand information. It's just a hobby of ours.

However, there's another side to the matter. For instance a group recently were discussing the recent proposals concerning the Supreme Court. One suggestion was that there quick in putting in a word for industrial apportionment of the membership, probably forgetting that a knowledge of the law may be of some advantage to those sitting on that high tribunal. However, we were quick in putting in a word for including a couple of citrus men in the membership. Our suggestion, however, did not meet with favor. Said one: "Do that, and no one would ever be able to get the court in agreement on anything."

Proper care of your citrus trees which includes the proper ration of the proper fertilizer will pay much bigger dividends than money in the bank.

IRRIGATION AND SPRAY EQUIPMENT

STATIONARY OR PORTABLE SYSTEMS
GENUINE AMES LOCK SEAM SLIP JOINT PIPE

THERMOMETERS — H-B Self Registering and Alarm Types

THE CAMERON AND BARKLEY CO.

Cameron
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Since 1865

Citrus Packing and Canning Supplies
TAMPA, FLORIDA
Send For Illustrated Folder

The Creoles Grow Oranges Too

Ann Mountfort, Bristol Road
Damariscotta, Maine

Whenever oranges are mentioned everybody promptly thinks of Florida or California, but — they were raised in Louisiana more than a hundred and fifty years ago. The essential elements of citrus culture, air, water and soil, ideally combined here, despite which Louisiana's orange industry has gone through many vicissitudes, freezes, floods and pests in turn having devastated the groves. But more insidious than all other handicaps has been the ease and lassitude that beguiled to laxness, until the lesson was learned that labor and unceasing watchfulness were also necessary.

The old trees in Plaquemines Parish were known as Louisiana Sweets, thought by some to have come over from Cuba, while others held 'twas the early Spanish settlers who brought them from their native land. They were seedlings and the parent stock of the present-day Louisiana Creole Sweets.

With no roads leading to the plantations then, oranges were marketed by river luggers, huge piles being dumped on the wharves at New Orleans, and from there peddled in bulk about the city, and only comparatively recently has this practice been abandoned.

Forty or fifty years ago crude grading, sizing and packing methods were introduced by some of the larger growers, then bud grafting on hardy root stock was tried out, fertilization and seed selection experimented with, until the industry became profitable and large groves sprang up.

Then Nature took a hand. Before the trees could hardly recover from the unprecedented cold and snow of 1895 came the storm of 1915, which sent water from the Gulf sweeping over the levees and wind, water and drift razed thousands of trees. Then came the war-time high prices of sugar and many diverted their orange land to sugar cane cultivation, while a scourge of pests demolished the rest of the groves.

But the sugar price dropped and it dawned on the planters that, while

sugar might be good for one year or even two, oranges are always wanted, so they started in again, but this time on a more scientific basis, with closer supervision, better marketing, better advertising.

One of the improvements, now standard practise, is the use of hardy root stock, generally the trifolia or mock orange, a tough, thorny tree, producing a fruit that is bitter and full of seeds, but by budding with desirable types, produces a combination of hardy trees and good fruit.

Not alone is Louisiana raising oranges, but so, too, are Alabama and

Mississippi. It is the practise, in this section, to bank the trees to a foot or more with earth to protect from cold, setting the trees from twenty to twenty-five feet apart, cultivating well, and planting a cover crop between, for fertilizer. Most of the orchards in St. Tammany Parish have installed heaters for cold weather use. Trees start bearing in the third year and their yield increases up until the tenth when they have reached maturity.

Satsuma is the earliest fruiting variety and is practically the only

(Continued on Page 19)

The Secret

of better fruit at economical cost isn't really a secret after all... because many growers know this fact: Your grove will produce more and better quality fruit when trees get the **RIGHT** Plant Foods in the **RIGHT** amounts at the **RIGHT** time!

GULF Brands of Fertilizer, used according to the plan your local Gulf Field Man will gladly prepare for you, will do all that any fertilizer can do to help you earn more profit per acre this year.

Try time-tested **GULF** Brands . . . the fertilizers that are "keyed to your soil."

For Everything
that Grows
in Florida-use



GULF Brands of
FERTILIZER



THE GULF FERTILIZER COMPANY
36th Street, South of East Broadway, Tampa, Florida

Bud Mutations In Horticultural Crops

(Concluded From Last Issue)

These tables include 391 mutations in the apple, 93 in the pear, 146 in the peach, 26 in the plum, 120 in the cherry, 87 in the grape, 1,664 in citrus fruits, 124 in other fruits, and 110 in potatoes, a grand total of 2,761.

Discussion of the Data

In the apple varieties the red bud mutations are the most conspicuous, by reason of their distinguishing characteristic—a distinct color which everyone excepting those who are color blind can easily see. For this reason, perhaps, the red sports have received more attention than others up to the present time. To show how frequently such bud sports have been discovered by growers during recent years it may be of some interest to note that there are records of red strains of bud origin in 39 commercial apple varieties as follows: Delicious, 57; Winesap, 29; Rome Beauty, 21; Northern Spy, 17; Oldenburg, 15; McIntosh, 11; Gravenstein, 13; Fameuse, 10; Stayman Winesap, 10; Stark, 7; Esopus Spitzenburg, 5; Jonathan, 5; Twenty Ounce, 5; Baldwin, 4; Red Astrachan, 4; Tompkins King, 4; York Imperial, 4; St. Lawrence, 3; Wealthy, 3; Willowtwig, 3; and one or two in each of the varieties Ben Davis, Bramley, Chenango, Cox Orange Dougherty, Hyslop, James Grieve, Minkler, Rambo, Ribston Shiwassee, Summer Queen, Summer Rambo, Transcendent, Wagener, Western Beauty, Westfield, Winter Banana, Wolf River.

In addition to the red sports, many other apple sports have been found such as those that differ from the normal in size, shape, texture of peel, seediness, texture and flavour of flesh, and in quantity of production. These, by reason of the difficulty in measuring them and in distinguishing them from the normal forms, have not been so spectacular as the color-of-fruit sports. However, some of them seem to be as important commercially as the color sports, and evidence is increasing that they may eventually rival the color sports in public interest and in commercial importance.

In pear, peach, plum and cherry varieties a number of strains that originated as bud sports have become commercially important during recent years. Most of these differ from the parent variety in the time of maturity of the fruits, in color, size and shape of fruit and in size or amount of seeds. Many others are in the process of progeny testing both experimentally and commercially. This is also true to some extent of grape, youngberry and some other fruits.

In roses, dahlias, chrysanthemums, ferns and many other flowers and ornamental plants, the list of bud sport varieties now in quite general use is a long and important one, as is well known by all workers with these plants. The possibility that new forms of many flowers and shrubs originate frequently as bud variations and remain constant under commercial propagation has been well known to growers for many years, but even with that knowledge, the possibility that variations of this kind were constantly occurring in fruit varieties was usually overlooked or actually denied until quite recent times. Carriere recorded in 1865 a very incomplete list of 50 standard rose varieties known to have been of bud mutation origin. The 1919 Annual of the American Rose Society listed 429 varieties of American roses of which 116, or more than 27 per cent, were known to have originated as bud mutations. Of 83 roses that were patented before May 12, 1936, 33 originated as bud mutations.

A large proportion of the present cultivated varieties of chrysanthemums are of bud mutation origin. Cramer presented a list of 400 such varieties and it has been stated that of the 8,800 varieties cultivated in Europe in 1899 more than 5,000 originated as bud variants.

With the increasing use of X-rays on buds, it seems almost certain to the writers that the lists of varieties originating from bud sports will be rapidly increased within the relatively near future. In general, it seems apparent that most of the com-

bination of characters brought about through cross-pollination are also likely to be found occurring in bud sports. With our growing knowledge of the use of X-rays and other methods of stimulating somatic variations it is not without the range of possibility that bud sports may eventually become practically as important a factor in plant improvement as is cross-fertilization in the case of plants that are commonly reproduced sexually.

Systematic Search for Bud Mutations

Through the medium of daily newspaper and agricultural periodicals the writers have repeatedly suggested to growers and other interested persons the importance of a systematic search for bud mutations in their orchards and plantations. The abundant response to these requests indicates an active interest in this pleasant work on the part of plant growers. Some of these discoveries are now under commercial test with the promise of rather valuable additions to the varieties of those plants under consideration.

It may be of interest to briefly outline our suggestions which have proved to be most helpful in this search. While these experiences are elementary in nature they have proved to be of more than ordinary value in these pioneer studies as shown by personal contacts and through correspondence with many growers of deciduous, citrus and other crops and ornamental plants.

The most frequent question asked by the grower is, "When can one best look for bud mutations?" Our answer to this question has been to look for fruit sports when the fruits are about mature. If early maturing mutations are sought, the trees should be gone over carefully from 2 to 3 weeks before the fruits are ready to be harvested. If late maturing bud mutations are desired, the differences in the color of the mature fruits and those that ripen two or three weeks later are usually conspicuous. In several instances the writers have found late maturing limb sports by going over the orch-

ard after the crop has been picked, the immature fruit on the late maturing limbs having been left by the pickers for a later harvest.

The second most frequent question is "How can I look for bud mutations?" Having selected the most appropriate time for the search, the observer should examine each tree or plant in the light of a mental picture of the normal forms. Any marked departure from the normal will then likely catch the attention of the systematic observer. Differences in the color of fruit, flowers or foliage are likely to first strike one's attention. The shape of the fruits, flowers or foliage is also easily noticed after the typical shapes of the normal forms have clearly been fixed in mind. Texture of the peel of fruits is also rather conspicuous, especially in the citrus and to a lesser extent in some of the deciduous fruits. The time of day during which the search can best be made is of some importance. The writers have found that during the morning hours the conditions are most favorable for detecting the unusual owing to light conditions, the turgidity and freshness of the foliage, and also perhaps because one's powers of observation are keenest during that period of the day. However, to those who live in or near their plantation, it pays to keep the trees or other plants under rather careful observation at all times.

The third question that has reached us most frequently in this connection has been "Where can I best search for bud sports?" An answer to this question is difficult because they may appear anywhere and in plants of all ages. As a rule, in fruits and other plants that the writers have studied, their experience indicates that better results are likely to be obtained with healthy trees grown under favorable environmental and cultural conditions at or near full bearing age, or that are fully developed. It is essential that the search for mutations should cover a considerable period of time so as to allow for rather frequent inspections.

The most striking mutations perhaps are those where one or more limbs or branches of an otherwise normal plant produce fruits, foliage or flowers that are quite distinct from the normal in one or more characteristics—in other words, what are now commonly called "limb sports." In addition, the entire plant may be a sport, the result of the unintentional propagation of a bud from a limb

or twig sport. Outstanding examples of both these occurrences include the original red-fruited limb sport in the otherwise normal Delicious apple tree which was the origin of the Starkling variety, and the entire-tree Delicious sport from which the Richared variety arose.

The desirability of a systematic search for bud mutations is that through trained observation by plant growers and plant lovers, many new plant forms may be discovered and tested with the hope that some of them may prove to be of commercial value. This search is open to all who may be interested. It is worth while if for no other reason than that of learning more about certain plant characteristics.

Pogeny Tests

After observing limb or entire tree or other plant variations it is necessary to ascertain whether or not they are inherent (and capable of perpetuation through bud propagation) or whether they are mere fluctuations that develop as a result of local environmental influences and are not transmitted by propagation. The usual method of determining these points is one that is now commonly called the "pogeny test." This term means the propagation through budding of one or more plants of the variations under consideration. With tree fruit there are at least two ways in which this test is accomplished—first through top-working bearing trees with buds from the variations, and second by budding on seedling rootstocks. Under the first method somewhat quicker fruiting results are to be obtained than through budding on seedlings. In general, the top-working method is oftentimes desirable and has the advantages of economy and operation and an early conclusion, but the budding of seedlings is the more satisfactory method, especially when quantitative as well as qualitative characteristics are being studied.

While one or more top worked trees will indicate whether or not the shape, color, size and some other characteristics of the fruits, flowers or foliage of the variations are capable of transmission through budding the writers believe that at least five budded nursery trees should be used for comparison with an equal number of such trees of the same age and conditions of growth that have been propagated from the normal forms in order to obtain dependable information as to quantity of fruit and certain other commercially valuable

characteristics. Naturally, the method of carrying out satisfactory progeny tests will depend upon circumstances and will have to be adapted to each case and be governed by local conditions.

Commercial Use

When the progeny tests indicate that the experimental strains may be of potential value, commercial tests covering a reasonably large acreage should be carried out so as to determine definitely the adaptability of the strains for commercial culture, from the producing, distributing and marketing standpoints. Such tests, if adequate and conducted over a period of years will be dependable guides as to the relative merits of the strains under tests as compared with parent varieties. These progeny and commercial tests will tend to avoid disappointments that often follow hasty conclusions that are based upon insufficient evidence and immature judgment. While they require considerable time and some systematic effort, the writers believe that the results fully justify the time and expense required in making them. If such tests are not practicable in individual instances it is usually possible to obtain the cooperation of state or other agricultural workers, especially if the indications are that the results are likely to be of some scientific interest or commercial importance. Furthermore it is desirable to obtain the suggestions and advice of such workers in any contemplated effort along these lines. The established sources of information on these subjects are the Agricultural Experiment stations that are usually located at the State Colleges, and the U. S. Department of Agriculture at Washington, D. C.

Conclusion

The growing scientific interest in
(Continued on Page 21)

C. D. Kime

Consulting
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ORLANDO

Growers Ask Continuation Of Present Citrus Laws

Lakeland, March 25—Recommendations that the legislature continue present state laws creating the Florida Citrus Commission and levying excise taxes for advertising fruit were approved here today by an industry legislative committee.

The committee, representing the Florida Citrus Exchange, Associated Citrus Growers and Shippers, and many growers and shippers not affiliated with these groups, also recommended that higher maturity standards be established for grapefruit and oranges, and the minimum state bond for shippers and canners increased from \$100 to \$2,000.

"The great majority of the growers and shippers recognize the value of the work which has been done by Commission in advertising Florida fruit and establishing grading standards, and we believe that the state laws providing for these activities should be made permanent," said H. E. Cornell, Winter Haven, chairman of the industry committee.

Present state laws creating the Commission and providing funds for advertising fruit were enacted two years ago as emergency measures and expire in June. Few minor changes were recommended by the committee in these laws, and no changes were proposed in the present method of having the 11 members of the Commission appointed by the Governor for alternating two-year terms, seven from districts and four from the state-at-large.

The committee recommended that excise taxes for advertising be continued at the present rate of 1 cent a box on oranges, 3 cents on grapefruit and 5 cents on tangerines, but that fruit for charitable or relief purposes be exempted. It approved an amendment to the grapefruit advertising act that the Commission shall "advise and consult" with an advisory committee of five canners, appointed by the Governor, in the advertising of citrus products.

In voting for an increase of from \$100 to \$2,000 in the minimum bond required of shippers and canners, committee members said they did not believe that the present bond gave growers adequate protection. The

committee also favored raising the maximum bond from \$5,000 to \$10,000, and giving the Commissioner of Agriculture, who administers this law, the right to obtain court injunctions to enjoin shippers and canners from operating when their licenses have been revoked.

The new grapefruit maturity standards recommended by the committee would increase the juice requirements of the present law and in addition establish a solids-acid test higher than that required under the 1931 law, which was observed this season at the request of federal authorities. The juice requirements would be increased 20 percent, but the Commission would also be given the power, upon vote of nine members after a public hearing, to increase or lower the new figures 10 percent each season, depending on weather and crop conditions. The solids-acid test would be on a sliding scale, starting with a 7 to 1 ratio of total soluble solids to anhydrous citric acid when total soluble solids of juice test not less than 7 percent.

The committee recommended that the present 8 to 1 solids-acid test for orange maturity be changed to include a test for total soluble solids of juice, and provided a minimum of 7 1/2 percent of total solids of juice when the ratio is 10 to 1. Oranges testing 8 to 1 would have to have total soluble solids of 9 1/2 percent. Even higher standards would be required for "color added" oranges, the committee recommending an increase of from 8 to 1 solids-acid with 9 percent soluble solids, required under the present law, to 8 1/2 to 1 when soluble solids of juice total 10 percent.

No changes were recommended in the state's present maturity standards for tangerines.

Six meetings have been held by the industry committee in the last five weeks in formulating its recommendations. Florida Citrus Exchange representatives on the committee were H. E. Cornell, Winter Haven, W. L. Tilden, Orlando, C. C. Commander, Tampa, H. G. Putnam, Oak Hill, and J. C. Palmer, Winter Garden, while the Associated was repre-

sented by W. H. Mouser, Orlando, J. J. Parrish, Titusville, Randall Chase, Sanford, L. Maxcy, Frostproof and H. C. Case, Fort Myers. A. M. Pratt, Lakeland, served as secretary of the committee.

Other growers and shippers attending the committee's meetings and taking part in its legislative discussions included H. L. Pringle, Leesburg, Frank R. Hammett, Orlando, R. B. Woolfolk, Orlando, John Corra, Vero Beach, C. W. Fly, Plymouth, Howard C. Babcock, Orlando, John S. Taylor, Jr., Largo, George Marsh, Orlando, John Rust, Bartow, E. D. Treadwell, Arcadia, E. L. Tappan, Lake Placid, R. D. Keene, Winter Garden, Norman H. Vissering, Babbson Park, L. P. Kirkland, Auburndale, C. E. Stewart, DeLand, John D. Clark Waverly, Luther L. Chan-

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Attorneys assisting the committee in preparing amendments to present state citrus laws were S. L. Holland, Bartow, Glean Grimes, Palmetto, Counts Johnson, Tampa, C. E. Ware, Clearwater, Doyle E. Carlton, Tampa, H. L. Pringle, Leesburg, and W. L. Tilden, Orlando.

BLOOD DONOR EATS THIRTY ORANGES DAILY

Berlin's "No. 54" has saved 50 lives, gave about one pint of blood each

Thirty oranges daily or thereabouts, are part of the diet of "Blood Donor No. 54" of Berlin Germany, who has so far saved 50 human lives, the German Railroads Information Office of New York informs us. The man's name is Edmund Eckardt, his age 35, and his only occupation that of producing and donating blood for transfusions. His blood belongs to "Group O," which means that it can be transferred to patients in all groups and therefore is in special demand.

Herr Eckardt, who started giving blood in 1933, has recently had the "Jubilee" of his 50th transfusion, and on this occasion has told a few things about his diet: for breakfast he eats marmalade and honey, for lunch mainly fish and vegetables and with his dinner he drinks lemon juice. Oranges, he considers especially affective for blood building, and therefore he eats up to 30 of them each day.

INCREASED RETURNS ANSWER TO THE QUESTION: "DOES SUPPLEMENTAL IRRIGATION PAY"

"Is it profitable?" is the first question raised in the humid East where supplemental irrigation is being adopted rapidly by truck and orchard farmers, says F. E. Staebner of the Bureau of Agricultural Engineering.

"Not all farmers keep accurate cost figures," he continues, "but those who have arranged to water their crops when rainfall is insufficient report that it is inexpensive drought insurance. Increased yields more than pay the costs."

Mr. Staebner cites increased returns from farms where supplemental irrigation has been used for several years: A Virginia orchardist sets his average increase as "several car-loads" and the average annual cost at "one carload." Another apple farmer finds the average yearly cost of water "35 cents a bushel," is more than offset by increased yield and better quality. A Michigan potato farmer reports irrigation has increased returns an average of 100 bushels an acre. A New Jersey farmer finds irrigation has increased his spinach yield about 233 crates per acre each year." A doubled yield of peppers is reported by another New Jersey truck farmer.

Increased revenue from a pear orchard in Michigan is given as "more than a dollar per tree." An Ohio orchardist reports irrigation "doubled the quality" of his pear crop. Among other increases from irrigation in Michigan are these: strawberries, "200 16-quart crates an acre;" melons, "larger and better quality;" peaches, "more than \$100 dollars an acre;" strawberries, "a gross return of \$760 from one acre."

Eleven of 22 irrigators of experience who reported recently to Mr. Staebner intend to bring more of their land under irrigation in 1937.

Three others already have all their land irrigated.

THE CROLEES GROW ORANGES TOO

(Continued from Page 15)

kind grown north of the city of New Orleans, bearing in middle or late October, and they must be picked and marketed by early November for, by that time comes the competition of early Louisiana Sweets and the Florida and California crops. In December the Navel and the Mandarin start ripening, continuing into February, likewise Tangerines. Late in the winter the Valencia starts bearing, continuing into March.

Louisiana has some grapefruit, also kumquats and a few lemon and lime trees, but not commercially, also a hybrid called "limequat."

The Gulf Coast Citrus Exchange, co-operative, attends to the advertising and marketing. Oranges are clipped, not picked, each owner's batch run through the packing plant separately, gathered before the skin has yellowed, then the field boxes are placed in the coloring rooms where the gas is turned on, turning the rind yellow but not affecting the flavor of the fruit.

From the gas room they are carried on a belt to a vat of water, and then on another endless chain past blowers and brushes until they are clean, then culled by girls, and onto the belts again to the trough with its different sized holes, where the small ones drop into small holes, and so on, automatically sorting for size. They are next wrapped in paper and laid in rows in the boxes before being headed up and stacked in the truck ready to go to the freight car.

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Twenty

STATE HORTICULTURAL SOCIETY MEETS IN OCALA ON APRIL 13, 14 AND 15

(Continued from Page 5)

celebrate its 50 years of accomplishments. This is to be an old timers' meeting where those who have had a part in these epochal developments in the industry will gather to renew friendships and discuss experiences. The program will not be as extensive as usual, more time being given for conferences and visits. A pageant is to be staged at Silver Springs that will depict the development of the industry from the time of the introduction of the orange in 1565 to modern times.

The space in the show windows of the stores about the Public Square in Ocala are to be filled with historical material of interest. Old plows, old sizers, washers, ox carts, and other equipment of the early days are to be featured. It is to be a gala occasion in Ocala. Under the sponsorship of the Garden Clubs, the city has been planted with thousands of Petunia plants that will be in the height of bloom at that time. The Garden Club is staging its Annual Flower Show for the benefit of the visitors and every effort is being expended to make this a Golden Jubilee meeting.

The meetings of the Society will be held in the American Legion Auditorium, opening on Tuesday night, April 13th, and continuing through the night of April 15th. The Pageant will be staged on Wednesday night, April 14th. Since it will be in the open, it will be postponed until the night of the 15th if the weather is inclement. The headquarters will be at the Hotel Marion. Horace L. Smith, the Secretary of the Marion County Chamber of Commerce, has guaranteed that there will be plenty of accommodations for all.

The Krome Memorial Institute will hold its only session on Wednesday afternoon, opening at 2:00 P. M. Dr. David Fairchild of Coconut Grove will give the opening address before the Institute on Wednesday.

The speakers at the opening session of the Society will be Dr. H. G. Webber of the Citrus Experiment Station at Riverside, California and Mr. H. G. Hastings of Atlanta, Ga. A brief memorial service for President John S. Taylor, Vice President S. F. Poole, L. B. Skinner and other members who have passed on during the year, will be held.

The program from Wednesday and

THE CITRUS INDUSTRY

Thursday will include discussions of fertilizers, diseases, pests, varieties, proposed citrus legislation and other topics of interest to the industry. The complete program will be published in the daily papers a few days before the meeting or can be secured by writing the Secretary, Bayard F. Floyd, at Davenport, Florida.

INCREASING ORANGE PRODUCTION ADDS TO GROWERS' MARKETING PROBLEMS

(Continued from Page 8)

anges now moving to market approximates 61,000,000 boxes, the second largest volume produced in the history of the industry. Of this amount, Florida has 21,000,000 boxes, the largest amount ever produced in the State.

Orange growers and shippers in Florida and in the California-Arizona area have taken definite steps toward the solution of their marketing problems. Working in cooperation with their State and Federal governments, growers and shippers in the two important producing areas have developed Federal marketing agreement programs under which it is possible for them to adjust shipments of fruit to out-of-state markets more nearly in line with what these markets require. Thus, they are in position to prevent market gluts which depress prices.

The marketing agreement program now in effect for Florida citrus fruit was developed by the industry under the provisions of the Agricultural Adjustment Act. The Federal marketing agreement, coupled with the

April, 1937

State's citrus laws, offers Florida growers and shippers an opportunity to meet the current problems in marketing this season's large production of fruit, and at the same time permits them to develop a longer-range program for handling the more acute marketing problems which may be expected to result from future increases in production.

BIGGER GRAPEFRUIT CROPS EXPECTED IN FUTURE YEARS

(Continued from Page 9)

averaged 8,100,000 boxes, and increased to an average of 10,500,000 boxes annually during the 1926-30 period. Crops of grapefruit in Florida during the 1931-35 period averaged 12,000,000 boxes. This year's crop is placed at 17,500,000 boxes. It is the largest crop ever produced in Florida and exceeds by 5,500,000 boxes the average annual production in the previous five years. Estimates indicate that under normal growing conditions during the 1937-41 period crops of grapefruit in Florida may be expected to average 17,000,000 boxes a year.

In Texas and other producing areas, grapefruit crops during the 1921-25 period averaged only 600,000 boxes a year, and in the 1926-30 period 2,100,000 boxes. During the next five years crops more than doubled, averaging 4,900,000 boxes. Production of grapefruit this season in Texas and other areas outside of Florida is placed at 9,100,000 boxes. The Texas crop for this season is placed at 6,800,000 boxes, while that in the California-Arizona area is es-

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timated at 2,300,000 boxes. Before the January freeze in the California-Arizona section, the crop there was placed at 4,900,000 boxes. Estimates of probable future production in Taxes and other areas outside of Florida indicate that under normal growing conditions grapefruit crops during the 1937-41 period may be expected to average 14,500,000 boxes annually.

The steady increases in production in all sections of the country have brought added difficulties to growers in marketing their grapefruit crops. In their efforts to improve selling conditions growers and shippers have developed marketing agreement programs under the provisions of the Agricultural Adjustment Act which enable them to regulate shipments of fruit more nearly in keeping with market requirements so as to prevent gluts which drive down prices.

Marketing agreement programs are assisting citrus growers and shippers in Florida and in the California area in selling this season's production of fruit on a more orderly basis. Acting on the experience of a big crop and low returns this year, Texas citrus growers and shippers recently developed a marketing agreement program which they expect to put into operation next season.

BUD MUTATIONS IN HORTICULTURAL CROPS

(Continued from Page 17)

the phenomenon of bud mutation is shown in some degrees by the increasing list of publications that present the results of researches along this line. During recent years the rapidly developing commercial interest in this subject is shown by the increasing number of strains of vegetatively propagated horticultural and agricultural crops that are now in commercial use in this



Food Marketing Methods Changing . . .

New developments in the marketing of fresh fruits and vegetables in the United States were described by F. G. Robb of the Bureau of Agricultural Economics, addressing the Canadian Fruit and Vegetable Jobbers' Association, at Montreal, Canada.

Changes include the pre-cooling of fruits and vegetables prior to shipment, new ways to preserve products in transportation and storage, new styles in packaging products, increased use of motor trucks and the growth of truckers' exchange markets.

Robb reported that the United States this season produced its largest crop of citrus fruit. He predicted further increases during the next few years especially in the production of grapefruit and oranges and said there will be a large increase this season in the volume of canned grapefruit. The production of canned grapefruit was estimated at 8,000,000 cases. Consumption of this product is increasing, said Robb, since prices under present methods of canning are much lower than prices a few years ago. A large increase in acreage of tomatoes for juice and canning also was reported.

Robb reported an increasing con-

country. The widespread activity in the search for promising bud mutations is reflected by the rather rapid increase in the numbers of those reported in recent years which have been summarized in the tables in this article.

There has been some progress made in the study of the stimulation of the frequency of bud mutations in certain plants through irradiation of somatic tissues with X-rays. It seems probable that the exploration of this field for research has just begun and that the future studies along this line will be of great value to some of our horticultural and agricultural industries.

The increasing numbers of growers, professional horticulturists and scientific workers who are interesting themselves in this subject makes it certain that major advances in our knowledge regarding bud mutation and bud selection still lie ahead.

sumer demand for frozen fresh fruits and vegetables, such as green peas, lima and snap beans, sweet corn, and berries of various kinds. He explained that much experimental work is being done to perfect freezing processes for better preservation of the flavors of the fresh products and for more convenient merchandising.

Discussing changing styles in packages, the speaker remarked that the trend is toward smaller shipping containers and toward consumer-size packages. As to changing methods of transportation, he said that more than 30 percent of our fruits and vegetables are now moving to market in motor trucks.

Coastwise steamers also are transporting increasing quantities of fruits and vegetables, he pointed out, citing large shipments of citrus fruits in steamers from Florida to Baltimore, Philadelphia, New York and Boston. At destination the fruit is redistributed over a wide area.

Changed methods of distribution, said Robb, have out-moded terminal facilities in the large cities. In many markets, he said the terminal facilities are "widely scattered, poorly located, hampered by traffic congestion, and expensively operated."

This will be reflected by great advances on the practical side because of the improved strains that will be developed commercially.

Few ailments are cured where the patient lacks confidence in the healer.

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EDITORIAL

(Continued from Page 10)

It must be confessed that Californians have some ground for wondering about when Florida will begin to do more than talk about our citrus problems. We confess that in times not so long past we have indulged in the same degree of wonderment.

However, recent concerted action of Florida citrus interests, headed by the Citrus Control Committee, seems to justify the conclusion that we really have begun to do something more than talk about our problems in distribution, and that Florida citrus growers are really "cashing in" on their opportunity.

LARGE Valencia, Hamlin, Perrine Lemon and grapefruit trees. Other varieties medium sized trees. Order now. Ward's Nursery, Avon Park, Fla.

FOR SALE: Several desirable bearing grapefruit and orange groves, in good condition, at extremely low prices. For information write H. C. Case, Box 87, Fort Myers, Fla.

"EVERY TRACTOR OWNER NEEDS IRVING'S 60 page 1937 tractor replacement parts catalog. Absolutely free. Thousands parts, all makes, tremendous price savings. Irving's Tractor Lug Co., 109 Knoxville Road, Galesburg, Illinois.

CROTALARIA—New crop, high quality, double cleaned, scarified Crotalaria Striata seed for sale. Attractive prices. Carolinas' Crotalaria Co., Camden, S. C.

FOR SALE—80 acres good citrus land, two miles northwest of Cocoa, Brevard County, Florida. Price \$1600.00 cash. S. Hendry, City Point, Florida.

Our supply of Hamlins on Cleopatra root is running low. Advise ordering early. Zellwood Nurseries, Zellwood, Florida.

FILMS DEVELOPED 2 prints of each 25c; 20 reprints 25c. Pine Photo, Y-5134 Nevada, Chicago.

THRIFTY TREES and budwood from record performance Perrine Lemon parents. Persian Lime and other citrus varieties. DeSoto Nurseries, DeSoto City, Fla.

WANTED—To hear from owner of land for sale. O. Hawley, Baldwin, Wis.

ALYCE CLOVER, the best legume for hay or covercrop. Write for information. Hardin Groves, Box 63, Lakeland, Fla.

CAUSERIENCE LEPIDOFLOIA—(So-called Brazilian oak), resembles Australian pine. Grand for wind-breaks. Cold resistant. Beautiful. Send for sample of foliage. \$6.00 per 100. S. S. Matthews, Homestead, Fla.

UP to \$20.00 paid for Indian Head Cents: Half Cents \$125.00; Large Copper Cents

\$500.00, etc. Send dime for list. Roman-geoinshop, D. Springfield, Mass.

FOR SALE—Small packing house machinery and equipment complete. Apply Hector Supply Company, Miami.

MEN WANTED—Sell shirts. No experience necessary. Free samples. Commission in advance. Free ties with shirts. Carroll Mills, 875A Flatbush Av., Brooklyn, N. Y.

CHOICE SOUR ORANGE SEEDLINGS for fall planting. very desirable stock. S. G. Cohen, Dade City, Florida.

HARDIN'S SPERRYOLA Lemon, a profitable adapted commercial variety for all sections. Hardy, prolific grower and producer. Limited number choice trees. Hardin Nurseries, Box 63, Lakeland, Fla.

WANTED—Man with from ten thousand to twenty thousand dollars to grow an entirely new orange for the U. S. markets. Cheap lands, no cold, plenty water, no fertilizer. A world beater in an orange. Patented.—Address, Buen Negocio, Gaveta-1, Holguin, Cuba.

PERSONAL—Quit Tobacco easily, inexpensively, without drugs. Send address. N. A. Stokes, Mohawk, Florida.

CITRUS NURSERY TREES, standard and new varieties on Cleopatra and Sour. Priced from 30c up. Grand Island Nurseries, Eustis, Fla.

FREE Booklet describes 87 plans for making \$20-\$100 weekly, home or office, business your own. Elite Service, 505 Fifth Ave., New York City.

WANTED—To hear from owner having good farm for sale. Cash price, particulars. John Black, Chippewa Falls, Wisconsin.

PUREBRED PULLETS FOR SALE—White Leghorns and Anconas ready to ship. Barred Rocks and R. I. Reds shortly. Several hundred yearling White Leghorn hens now laying 70%. Write or wire for prices. C. A. Norman, Dr. 1440, Knoxville, Tenn.

LAREDO SOY BEANS, considered free from nematode, excellent for hay and soil improvement. Write the Baldwin County Seed Growers Association, Loxley, Alabama, for prices.

SCENIC HIGHWAY NURSERIES has a large stock of early and late grapefruit and oranges. One, two and three year buds. This nursery has been operated since 1883 by G. H. Gibbons, Waverly, Fla.

SEED—Rough lemon, sour orange, cleopatra. New crop from type true parent trees. Also thrifty seedlings. DeSoto Nurseries, DeSoto City, Florida.

NEW COMMERCIAL lemon for Florida, the Perrine; proven. All residents need yard trees, keeping Florida money at home. Booking orders for budded stock for Winter delivery. DeSoto Nurseries, DeSoto City, Fla.

CITRUS SEEDLINGS, all root stock varieties. \$10.00 per 1000 up. Grand Island Nurseries, Eustis, Fla.

BUDDED trees new Florida commercial lemon, proven, thin skinned, juicy, scab immune. Also rough lemon, sour orange and Cleopatra seed and lineout seedlings. DeSoto Nurseries, DeSoto City, Fla.

SEEDS—ROUGH LEMON, SOUR ORANGE, CLEOPATRA. Pure, fresh, good germination. Also seedlings lineout size. DeSoto Nurseries, DeSoto City, Fla.

CROTALARIA SPECTABILIS—Seed for sale. New crop, well cured, bright and clean. Price 25c per pound in 100 pound lots and over, 30c per pound in less quantities, f.o.b. Hastings, Bunnell, Lowell and San Antonio, Florida. F. M. LEONARD & COMPANY, Hastings, Florida.

WANTED—Position as packing house foreman; in citrus business twenty-five years; ten years' experience as foreman; married man. J. R. Henry, Okahumpka, Florida.

2 YEAR FIELD GROWN ROSES: Red, Pink, Shell, Salmon, White Radiance, Hollandia, Columbia, Milady, Luxemburg, Edel, Padre, Victoria, Talisman, Persian. All 19c each, postpaid, ship COD. Catalog free. NAUGHTON FARMS, Waxahachie, Texas.

CROTALARIA SPECTABILIS, fresh crop, scarified, \$15.00 per 100 lbs. F. O. H. Eustis. GRAND ISLAND NURSERIES, EUSTIS, FLA.

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A

Whence And Whither.... The Citrus Industry?

At Meeting Of Florida State
Horticultural Society

BY HERBERT J. WEBBER
PROFESSOR HORTICULTURE, EMERITUS, UNIVERSITY
OF CALIFORNIA
Former Director And Dean Of The California Experiment
Station And Graduate School Of Tropical Agriculture

We are pleased to submit herewith excerpts of Dr. Webber made on the opening night of the recent Horticultural Society meeting. Dr. Webber's early work in Florida and later in California has made him renowned throughout the citrus industry of the world.

Message of Congratulations

Before proceeding to my address, I wish to state that I am commissioned by the University of California, the California Agricultural Experiment Station, and especially by the California Citrus Experiment Station through its beloved and able director, Dr. Leon D. Batchelor, to convey to your great Society and its members, enthusiastic greetings and congratulations on the successful completion of fifty years of exceptionally profitable service. Fifty years is a long time, and the influence of your Society on your State and on the citrus industry all over the world, has been of tremendous importance. Your annual reports appearing year after year through the decades have carried much desired information and messages of cheer. Together they furnish a compendium of information relative to citrus and subtropical horticulture probably unequaled by any other single series of publications. You have reason to be proud of your Society.

Whence the Citrus Industry

How citrus fruits were first brought to America by Columbus on his second voyage in 1493, and how they spread to Mexico in 1518, to Florida and to South Carolina about 1565, and later to Arizona, 1707, and finally through the missions of lower California up the coast to California about 1769, are historic facts now well known. Also well known is the slow advance made during the early years of the 18th century. We have read of the early groves in Florida of Zephaniah Kingsley on old Fort George Island, the Rembert

Grove on Drayton Island, and the Dummit grove on Merritt's Island. Likewise we are familiar with the historic orchards in California at the San Gabriel Mission, the Don Louis Vignes orchard, and the famous Wolfskill orchards in the vicinity of Los Angeles; citrus groves are orchards in California. We shall not stop to review the triumphs and discoveries of those early days. We will start our consideration of the milestones of progress with the organization of this Society in 1888.

Condition of Industry Fifty Years Ago

Fifty years ago when this Society was first organized, citrus growing

was still an infant industry. Florida was producing a crop of approximately 1,450,000 boxes, and California only about 958,000 boxes annually. The population of the United States was already about 60 millions, and there was a total production of only approximately 8 fruits per capita.

Organization of The Florida State Horticultural Society

Then came the formation of this Society, organized to foster the exchange of ideas and the extension of scientific knowledge relative to the industry. This was the most outstanding event in the history of the

(Continued on page 18)

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